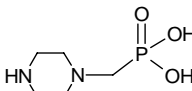
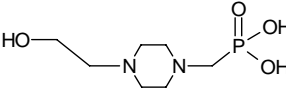
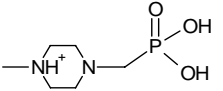
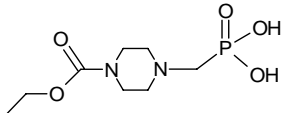
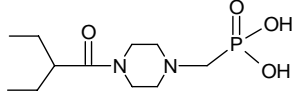
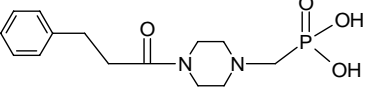
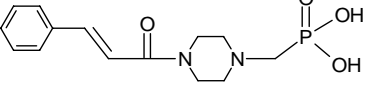
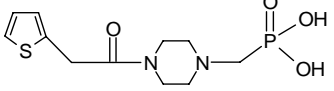
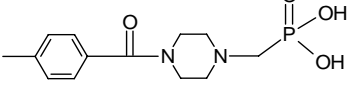
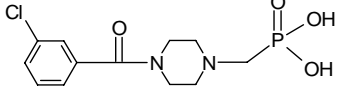
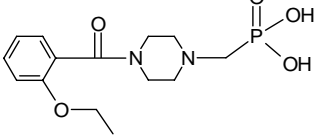
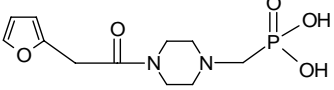
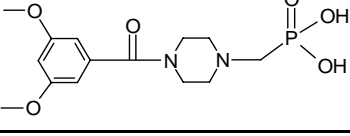
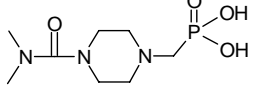
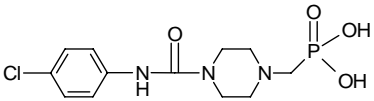
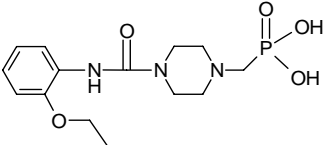
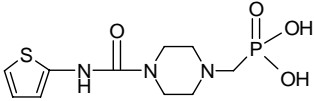
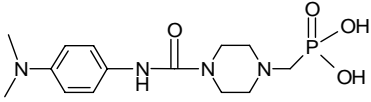
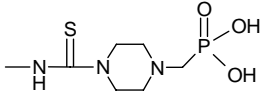
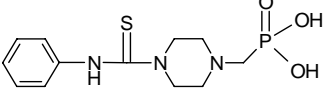
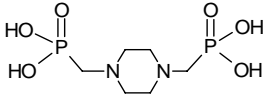
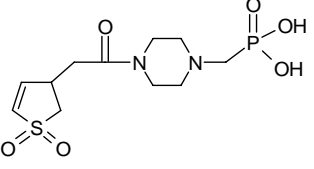
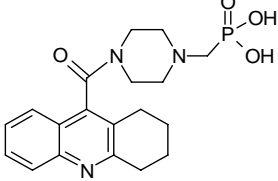
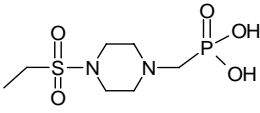
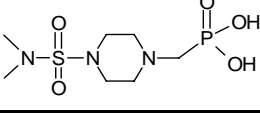
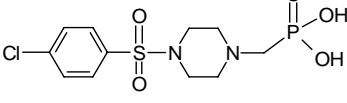
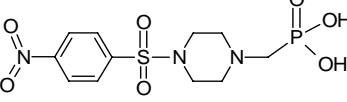
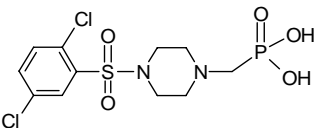
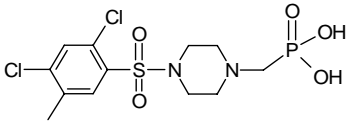
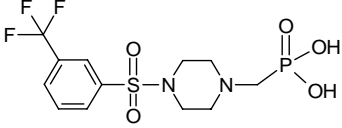
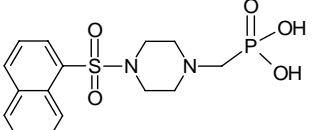
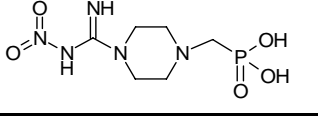
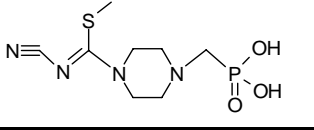
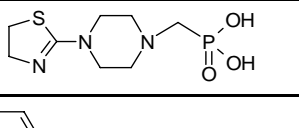
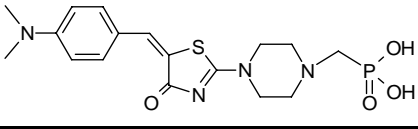
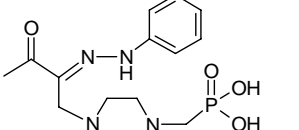
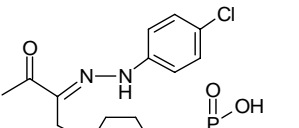
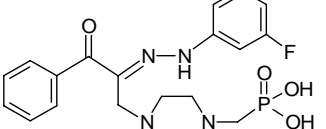
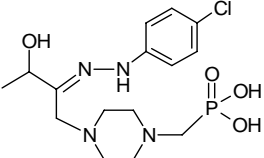
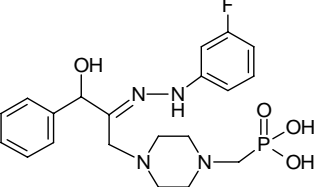
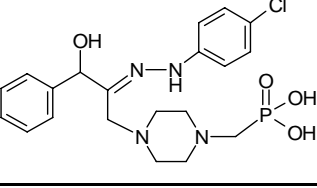
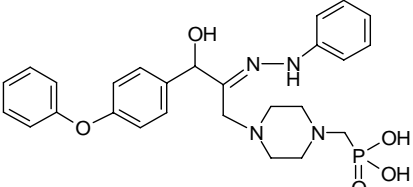
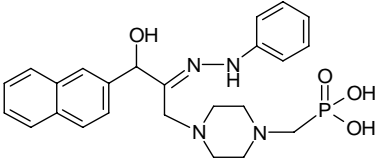
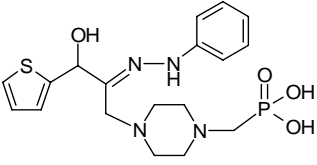
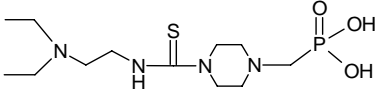
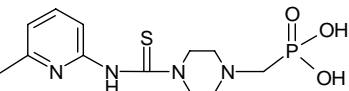
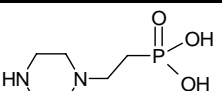
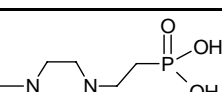
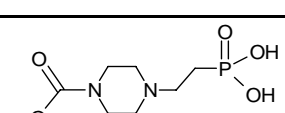


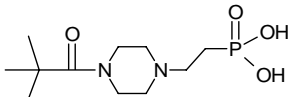
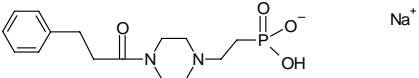
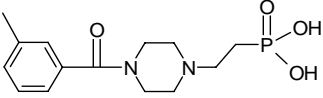
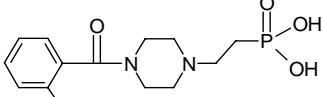
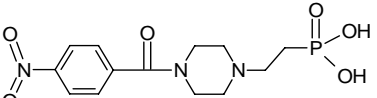
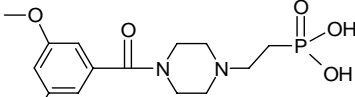
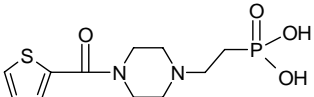
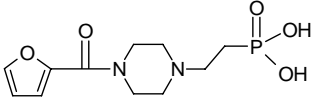
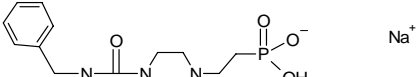
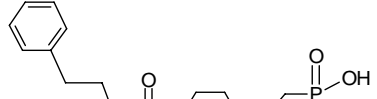
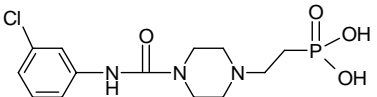
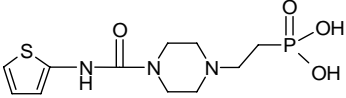
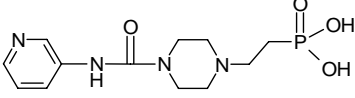
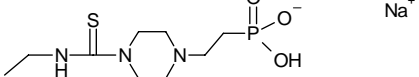
ID Number	Structure	Formula	M.W.	m.p. °C	Remarks
H	PIPERAZINE-ALKYL-PHOSPHONIC ACIDS and 4-derivatives				
H01-00-B4833		C5H13N2O3P	180,14	270-273	colorless crystals
H01-00-B7222		C7H17N2O4P	224,20	170-172	colorless crystals
H01-26-3801		C6H16ClN2O3P	230,63	209-213	colorless crystals
H01-26-3802		C8H17N2O5P	252,21	193-197	colorless crystals
H01-26-3803		C11H23N2O4P	278,29	206-208	colorless crystals
H01-26-3804		C14H21N2O4P	312,31	243-247	colorless crystals
H01-26-3805		C14H19N2O4P	310,29	266-267	colorless crystals
H01-26-3806		C11H17N2O4PS	304,31	256-259	colorless crystals
H01-26-3807		C13H19N2O4P	298,28	157-160	colorless crystals
H01-26-3808		C12H16ClN2O4P	318,70	180-184	colorless crystals
H01-26-3809		C14H21N2O5P	328,31	200-204	colorless crystals
H01-26-3810		C11H17N2O5P	288,24	256-261	colorless crystals
H01-26-3811		C14H21N2O6P	344,31	133-137	colorless crystals
H01-26-3812		C8H18N3O4P	251,22	247-250	colorless crystals

H01-26-3814		C12H17ClN3O4P	333,71	241-242	colorless crystals
H01-26-3815		C14H22N3O5P	343,32	162-165	colorless crystals
H01-26-3816		C10H16N3O4PS	305,29	210-212	colorless crystals
H01-26-3817		C14H23N4O4P	342,34	200-202	colorless crystals
H01-26-3818		C7H16N3O3PS	253,26	252-254	colorless crystals
H01-26-3819		C12H18N3O3PS	315,33	218-221	colorless crystals
H01-26-3820		C6H16N2O6P2	274,15	310-312	colorless crystals
H01-26-4865		C11H19N2O6PS	338,32	151-153	colorless crystals
H01-26-5056		C19H24N3O4P	389,39	261-263	colorless crystals
H01-27-3849		C7H17N2O5PS	272,26	221-226	colorless crystals
H01-27-3850		C7H18N3O5PS	287,28	250-253	colorless crystals
H01-27-3852		C11H16ClN2O5PS	354,75	141-145	colorless crystals
H01-27-3853		C11H16N3O7PS	365,30	227-237	colorless crystals

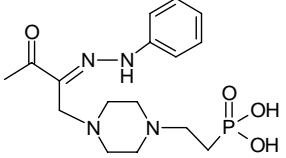
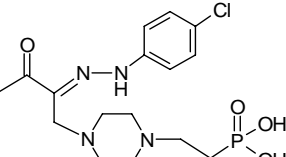
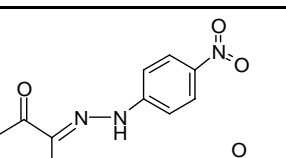
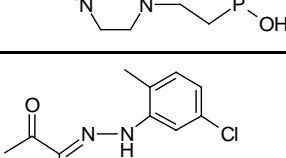
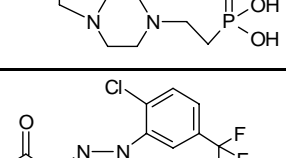
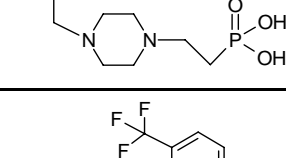
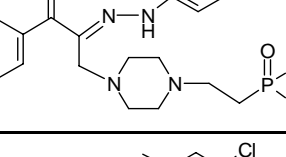
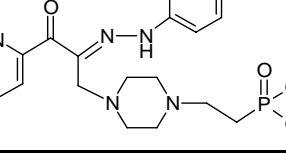
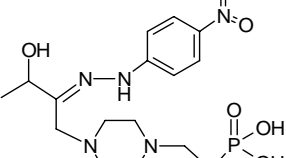
H01-27-3854		C ₁₁ H ₁₅ Cl ₂ N ₂ O ₅ PS	389,20	225-231	colorless crystals
H01-27-3855		C ₁₂ H ₁₇ ClN ₂ O ₅ PS	403,22	241-245	colorless crystals
H01-27-3856		C ₁₂ H ₁₆ F ₃ N ₂ O ₅ PS	388,30	184-186	colorless crystals
H01-27-3857		C ₁₄ H ₁₈ N ₃ O ₅ PS	371,35	245-247	colorless crystals
H01-35-4149		C ₆ H ₁₄ N ₅ O ₅ P	267,18	247-251	colorless crystals
H01-36-4024		C ₈ H ₁₅ N ₄ O ₃ PS	278,27	186-187	colorless crystals
H01-37-4054		C ₈ H ₁₆ N ₃ O ₃ PS	265,27	245-248	colorless crystals
H01-37-4055		C ₁₇ H ₂₃ N ₄ O ₄ PS	410,44	249-253	yellow crystals
H01-45-4070		C ₁₅ H ₂₃ N ₄ O ₄ P	354,35	186-191	yellowish crystals
H01-45-4071		C ₁₅ H ₂₂ ClN ₄ O ₄ P	388,79	192-194	cream-colored crystals
H01-45-4072		C ₂₀ H ₂₄ FN ₄ O ₄ P	434,41	191-196	pale yellow crystals

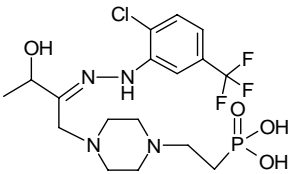
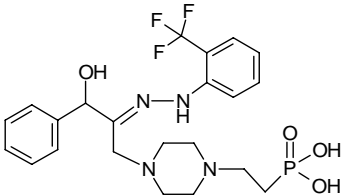
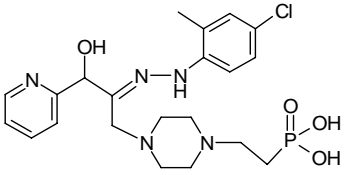
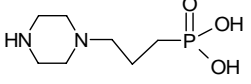
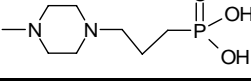
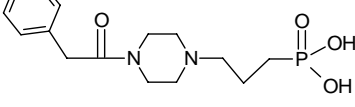
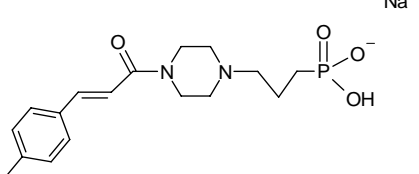
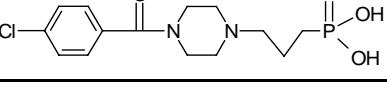
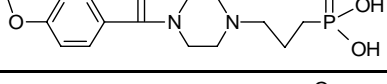
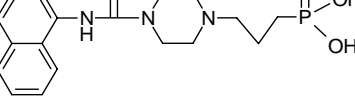
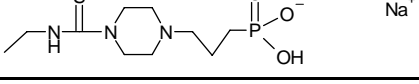
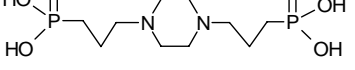
H01-45-4073		C20H24ClN4O4P	450,87	175-179	yellowish crystals
H01-45-4074		C24H27N4O4P	466,48	187-190	yellow crystals
H01-45-4075		C26H29N4O5P	508,52	166-169	yellowish crystals
H01-45-4076		C18H23N4O4PS	422,45	213-216	yellow crystals
H01-45-4077		C19H24N5O4P	417,41	150-153	yellow crystals
H01-45-4078		C20H23F3N5O4P	485,41	147-150	yellow crystals
H01-45-4079		C20H25ClN5O4P	465,88	180-184	yellow crystals
H01-45-4080		C19H24N5O4P	417,41	147-150	yellow crystals
H01-45A-4093		C15H25N4O4P	356,36	185-186	cream-colored crystals

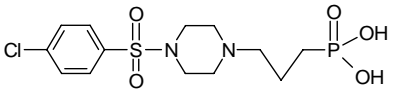
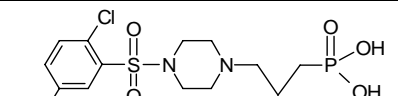
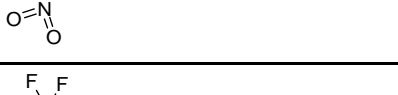
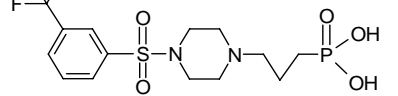
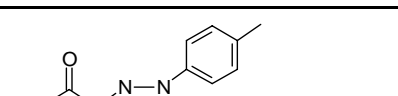
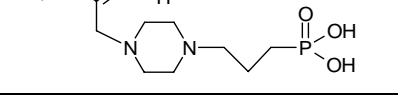
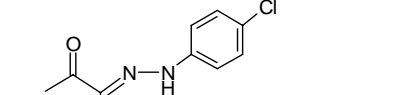
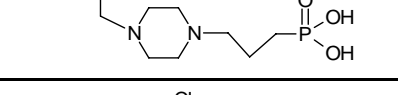
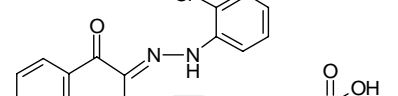
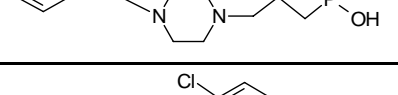
H01-45A-4094		C15H24ClN4O4P	390,81	201-205	cream-colored crystals
H01-45A-4095		C20H26FN4O4P	436,43	167-171	yellowish crystals
H01-45A-4096		C20H26ClN4O4P	452,88	158-162	yellowish crystals
H01-45A-4097		C26H31N4O5P	510,53	155-158	yellowish crystals
H01-45A-4098		C24H29N4O4P	468,50	175-179	yellow crystals
H01-45A-4099		C18H25N4O4PS	424,46	213-216	yellow crystals
H01-70-4933		C12H27N4O3PS	338,41	178-180	colorless crystals
H01-70-4934		C12H19N4O3PS	330,35	257-260	colorless crystals
H02-00-B4428		C6H15N2O3P	194,17	283-285	colorless crystals
H02-26-3822		C7H17N2O3P	208,20	240-243	colorless crystals
H02-26-3823		C8H17N2O5P	252,21	215-217	colorless crystals

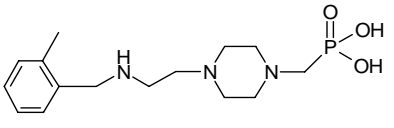
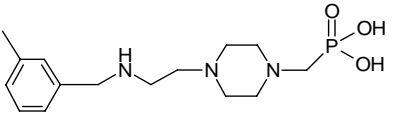
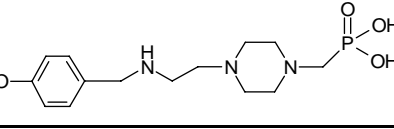
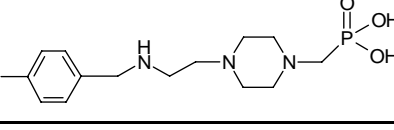
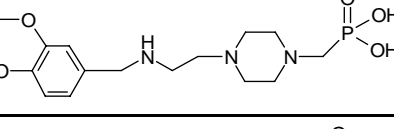
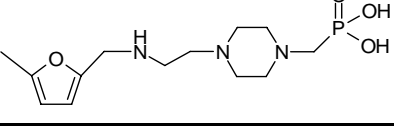
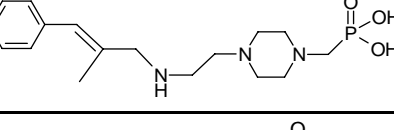
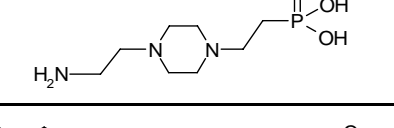
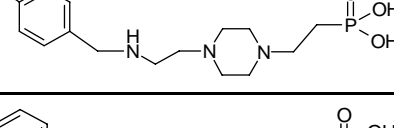
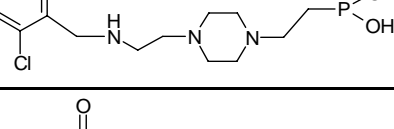
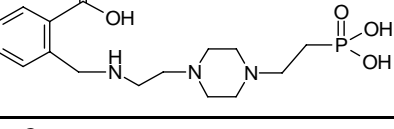
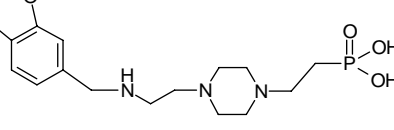
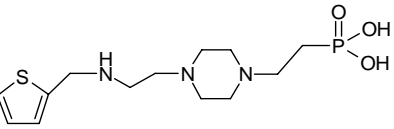
H02-26-3824		C11H23N2O4P	278,29	214-219	colorless crystals
H02-26-3825		C15H22N2NaO4P	348,32	255-260	white solid
H02-26-3826		C14H21N2O4P	312,31	203-206	colorless crystals
H02-26-3827		C13H18ClN2O4P	332,73	73-76	colorless crystals hygroscopic
H02-26-3828		C13H18N3O6P	343,28	276-278	colorless crystals
H02-26-3829		C15H23N2O6P	358,33	152-156	colorless crystals
H02-26-3830		C11H17N2O4PS	304,31	234-237	colorless crystals
H02-26-3831		C11H17N2O5P	288,24	241-246	colorless crystals
H02-26-3832		C14H21N3NaO4P	349,30	230-241	colorless crystals hygroscopic
H02-26-3833		C15H24N3O4P	341,35	151-153	colorless crystals
H02-26-3834		C13H19ClN3O4P	347,74	182-184	colorless crystals
H02-26-3835		C11H18N3O4PS	319,32	214-215	colorless plates
H02-26-3836		C12H19N4O4P	314,28	216-218	colorless crystals
H02-26-3837		C9H19N3NaO3PS	303,30	260-262	colorless crystals

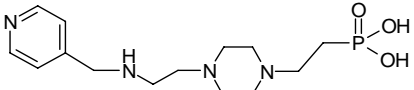
H02-26-3838		C ₈ H ₂₀ N ₂ O ₆ P ₂	302,21	283-286	colorless crystals
H02-26-5057		C ₂₀ H ₂₆ N ₃ O ₄ P	403,42	240-242	colorless crystals
H02-27-3859		C ₇ H ₁₇ N ₂ O ₅ PS	272,26	280-281	colorless crystals
H02-27-3861		C ₁₂ H ₁₉ N ₂ O ₅ PS	334,33	234-237	colorless crystals
H02-27-3862		C ₁₃ H ₂₁ N ₂ O ₅ PS	348,36	136-139	colorless crystals
H02-27-3863		C ₁₄ H ₂₂ N ₃ O ₆ PS	391,39	188-192	colorless crystals
H02-27-3864		C ₁₂ H ₁₇ Cl ₂ N ₂ O ₅ PS	403,22	165-166	colorless crystals
H02-27-3865		C ₁₃ H ₁₉ Cl ₂ N ₂ O ₅ PS	417,25	236-242	colorless crystals
H02-27-3866		C ₁₃ H ₁₈ F ₃ N ₂ O ₅ PS	402,33	197-201	colorless crystals
H02-27-3867		C ₁₅ H ₂₀ N ₃ O ₅ PS	385,38	258-261	colorless crystals
H02-36-4157		C ₉ H ₁₇ N ₄ O ₃ PS	292,30	204-207	colorless crystals
H02-36A-5068		C ₈ H ₁₆ N ₅ O ₃ P	261,22	274-276	colorless crystals
H02-36A-5069		C ₁₀ H ₂₀ N ₅ O ₃ P	289,28	161-164	colorless crystals

H02-45-4081		C16H25N4O4P	368,38	174-178	cream-colored crystals
H02-45-4082		C16H24ClN4O4P	402,82	190-195	cream-colored plates
H02-45-4083		C16H24N5O6P	413,37	162-167	light yellow crystals
H02-45-4084		C17H26ClN4O4P	416,85	197-200	cream-colored crystals
H02-45-4085		C17H23ClF3N4O4P	470,82	240-243	light yellow crystals
H02-45-4086		C22H26F3N4O4P	498,45	207-210	cream-colored crystals
H02-45-4087		C21H27ClN5O4P	479,91	205-210	yellow crystals
H02-45A-4103		C16H26N5O6P	415,39	204-207	brick-yellow crystals
H02-45A-4104		C17H28ClN4O4P	418,86	195-198	cream-colored crystals

H02-45A-4105		C17H25ClF3N4O4P	472,84	187-190	salmon-yellow crystals
H02-45A-4106		C22H28F3N4O4P	500,46	191-195	cream-colored crystals
H02-45A-4107		C21H29ClN5O4P	481,92	144-146	cream-colored crystals
H03-00-B4861		C7H17N2O3P	208,20	253-255	colorless crystals
H03-26-3840		C8H19N2O3P	222,23	138-141	colorless crystals
H03-26-3841		C15H23N2O4P	326,34	195-205	colorless crystals
H03-26-3842		C17H24N2NaO4P	374,36	223-228	colorless crystals
H03-26-3843		C14H20ClN2O4P	346,75	150-154	colorless crystals
H03-26-3844		C15H23N2O5P	342,33	175-180	colorless crystals
H03-26-3845		C18H24N3O4P	377,38	228-230	colorless crystals
H03-26-3847		C10H21N3NaO3PS	317,32	225-228	colorless crystals hygroscopic
H03-26-3848		C10H24N2O6P2	330,26	258-263	colorless crystals

H03-27-3868		C13H20ClN2O5PS	382,81	221-228	colorless crystals
H03-27-3869		C13H19ClN3O7PS	427,80	203-206	colorless crystals
H03-27-3870		C14H20F3N2O5PS	416,36	125-128	colorless crystals
H03-43-4088		C18H29N4O4P	396,43	189-193	cream-colored crystals
H03-45-4089		C17H26ClN4O4P	416,85	180-188	yellowish solid
H03-45-4090		C22H28ClN4O4P	478,92	193-197	yellowish solid
H03-45A-4108		C22H30ClN4O4P	480,94	163-167	yellowish crystals
H04-00-5003		C7H18N3O3P	223,21	272-275	colorless crystals
H04-63-4649		C15H26N3O3P	327,37	125-127	colorless crystals
H04-63-4907		C12H21N4O3P	300,30	109-111	colorless crystals

H04-63-5010		C15H26N3O3P	327,37	145-148	colorless crystals
H04-63-5011		C15H26N3O3P	327,37	118-120	colorless crystals
H04-63-5012		C14H24N3O4P	329,34	183-186	colorless crystals
H04-63-5013		C14H23ClN3O3P	347,78	240-245	colorless crystals
H04-63-5014		C15H26N3O5P	359,37	216-218	colorless crystals
H04-63-5015		C13H24N3O4P	317,33	127-129	colorless crystals
H04-63-5016		C17H28N3O3P	353,40	128-131	colorless crystals
H05-00-5004		C8H20N3O3P	237,24	264-267	colorless crystals
H05-63-5017		C16H28N3O3P	341,39	121-123	colorless crystals
H05-63-5018		C15H25ClN3O3P	361,81	189-191	colorless crystals
H05-63-5019		C16H26N3O5P	371,38	247-250	colorless crystals
H05-63-5020		C16H26N3O5P	371,38	250-253	colorless crystals
H05-63-5021		C13H24N3O3PS	333,39	250-254	colorless crystals

H05-63-5022	 <chem>CC1=CC=NC=C1CNCCN2CCN(CC2)CCOP(=O)(O)O</chem>	C ₁₄ H ₂₅ N ₄ O ₃ P	328,35	118-120	colorless crystals purity ca 90%
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